Florida Power & Light Company, 6501 S. Ocean Drive, Jensen Beach, FL 34957

October 25, 2004

L-200-247
10 CFR 50.36b
EPP 5.4.2

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Re: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Environmental Protection Plan Report
Date of Events: September 25, 2004 and September 30, 2004
Non-routine Environmental Events - Sea Turtle Mortalities
Causal to Plant Operations Related to Hurricanes Frances and Jeanne

The attached Report is being submitted pursuant to the requirements of Section 5.4.2 of the St. Lucie Units 1 and 2 Environmental Protection Plans to provide a description of reportable sea turtle mortalities causal to plant operations at the St. Lucie Plant. The mortalities were attributed to plant operations during and after Hurricanes Frances and Jeanne.

Very truly yours,

William Jefferson, Jr.
Vice President
St. Lucie Plant

WJ/GRM

Attachment

IE23

EVENT DESCRIPTION

At approximately 0530 hours on September 25, 2004, a dead Green Sea Turtle (*Chelonia mydas*) was removed from the Unit 1 intake wells. The turtle was severely decomposed and biologists estimated its weight at six kilograms. On September 30, 2004, a Loggerhead Sea Turtle (*Caretta caretta*) was found dead floating near the 16-foot intake pipe headwall in the intake canal of the power plant. This turtle was moderately decomposed and weighed approximately 50 kilograms. Neither of these turtles had any obvious injuries or abnormalities and sea turtle biologists at the plant in consultation with personnel from the Florida Fish and Wildlife Conservation Commission (FWCC) determined that these turtles had likely drowned.

These are the first two mortalities or injuries this year at the St. Lucie Plant that can be attributed to plant operation. The limits for injuries or mortalities of these species, resulting from plant operation, were set by the National Marine Fisheries Service Incidental Take Statement issued and clarified by the NRC in 2001.

CAUSE OF THE EVENT

The Green Sea Turtle found dead in the Unit 1 intake well was causally related to the storm surge experienced during Hurricane Frances, which impacted the power plant area on September 4, 2004. The Hurricane Frances storm surge elevated the water levels in the plant intake canal sufficiently enough to allow sea turtles to swim over the top of the primary barrier net as the storm came ashore. Although directed efforts were made to capture any turtles observed following the storm, the Green Turtle found September 25, 2004 became impinged in the Unit 1 intake wells and presumably drowned after apparently breaching the primary and secondary barrier nets during the hurricane.

The Loggerhead Turtle found near the 16-foot intake pipe headwall area also died as a result of storm related events. During Hurricane Jeanne, which came ashore on September 25, 2004, all circulating water pumps were off causing very low flow conditions through the power plant's intake pipes. The loss of circulating water pumps was caused by a loss of offsite power that occurred during the storm. When these conditions occur, sea turtles that enter the intake pipes may become disoriented and drown, since there is not adequate flow to pull them into the open intake canal system. The turtles are then swept into the open canal system when the plant circulating pumps are subsequently re-started. This is the apparent cause of the loggerhead mortality discovered on September 30, 2004.

It is clear that the recent hurricanes were contributing factors in both of the above mortalities. Prior to these storms, 660 sea turtles had been captured and released at the intake canal during 2004 without any mortalities.

CORRECTIVE ACTIONS

Due to the circumstances surrounding the hurricanes that affected St. Lucie Station, there were no specific corrective actions that would have prevented the event. To this date, the primary intake canal barrier net has performed as designed with the exception of the storm surge period associated with the hurricanes. Additionally, maintaining circulating water pump flow to eliminate low flow conditions in the intake piping requires offsite power to be available at all times. The loss of offsite power event is an anticipated operational occurrence that is outside the control of the plant and potentially may occur during severe weather conditions such as those recently experienced at St. Lucie Station.

To minimize the potential for future sea turtle mortality related to low flow conditions in the intake canal, direction will be included in the site recovery plan to evaluate restoration of intake canal flow when conditions permit following the return of power due to loss of the offsite grid.

AGENCIES NOTIFIED

The Florida Fish and Wildlife Conservation Commission was notified of the two mortalities in compliance with Marine Turtle Permit #125.

Follow-up notifications were made to the NRC on September 25, 2004 and on September 30, 2004 per the requirements of 10 CFR 50.72(b)(2)(vi).